What is claimed is:

1.　　A copper alloy comprising:

　　2.0 to 4.0 mass% of Ti;

　　not more than 0.1 mass% in total of unavoidable impurity elements consisting of Pb, Sn, Zn, Mn, Fe, Co, Ni, S, Si, Al, P, As, Se, Te, Sb, Bi, Au, and Ag, each unavoidable impurity element being contained at not more than 0.01 mass%; and

　　second-phase particles of area of not less than 0.01 μm^2 observed by a cross section speculum;

　　wherein not less than 80% of the number of the second-phase particles contain not less than 3% in total amount of the unavoidable impurity elements in composition.

2.　　The copper alloy according to claim 1, wherein when the second-phase particles of not less than 0.01 μm^2 area observed by a cross section speculum is assumed to be a circle having a diameter of D, the diameter D is 0.2 to 1.0 μm.

3.　　The copper alloy according to claim 1, wherein the second-phase particle has:

　　a particle density ρ, of second-phase particles of area of not less than 0.01 μm^2 observed by the cross section speculum, is 1 to 100 particles per 100 μm^2; and

　　an average distance of particles d defined by the following formula, wherein the average distance of particles d is 2 to 20μm.

$$d = \frac{1}{n}\sum_{i}^{n}(\frac{1}{10}\sum_{j}^{10}d_{ij}) = \frac{1}{n}\sum_{i}^{n}(\frac{1}{10}\sum_{j}^{10}\left|\vec{P}_{ij} - \vec{P}_{i}\right|)$$

di1: distance from arbitrary second-phase particle Pi (i= 1, 2, ⋯, n) to the second-phase particle Pi1 which is the closest to Pi

di2: distance from Pi to the second-phase particle Pi2 which is close to the second to Pi

dij (no repetition): distance from Pi to the second-phase particle Pij which is close to the j-th to Pi

d: average distance of particles (above formula)

n: sufficiently large number, statistically of at least 10